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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,599	12/14/2001	Vam Chang Taiwanese	CHAN3125/EM	2038

23364 7590 06/21/2005

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EXAMINER

SHAW, YIN CHEN

ART UNIT	PAPER NUMBER
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2135

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/014,599

**Applicant(s)**

TAIWANESE, VAM CHANG

**Examiner**

Yin-Chen Shaw

**Art Unit**

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/14/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 1-8 have been submitted for examination.
2. Claims 1-8 have been examined and rejected.

### **Claim Objections**

3. Claim 1 is objected to because of the following informalities:
  - a. The phrase "utilize a decryption device" in line 7 on Pg. 9 is inconsistent with the rest of the claimed language. The correction should be "utilize an encryption device". Appropriate change(s) on subsequent claim(s) are also required.

Appropriate correction is required.

### **Claim Interpretation**

4. Claims have been afforded their broadest reasonable interpretation. Applicant's language directed to the preset identification code is interpreted as equivalent to the link key of the BLUETOOTH device.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trost et al. (U.S. Patent 2002/0151275) and further in view of Bluetooth Specification Core Version 1.0 (pg. 41-202).

a. Referring to Claim 1:

Trost et al. disclose a transmission-reception method for a wireless device [i.e., **Bluetooth (BT) wireless transceiver 105A, 105B, 105C, 105D etc. (Fig. 1)**] of an electronic equipment [i.e., **PDA 103, fax machine 107, telephone 109, printer 113, computer 115, etc. (Fig. 1)**], wherein a control circuit [i.e. **base band link controller 211 (Fig. 2C)**] of the said transmission-reception device executes a signal reception routine according to the steps below:

first, receiving signals outputted from the electronic equipment by a control circuit of the said transmission-reception device [i.e., **So, for example, something is typed on a keyboard. The input from the keyboard would be then converted into L2CAP packets in L2CAP layer 803. The L2CAP packets would be then communicated to the HCI layer 805 which would convert the L2CAP packets into HCI packets. The HCI packets would then be converted into USB packets in the USB layer 807 and coupled across the USB bus to the USB layer 809 within the Bluetooth device. The USB packets would then be reassembled into HCI packets in HCI layer 811, and**

then further coupled into the physical layer 813 (lines 1-11 in [0071]). The HCI Hardware is linked to the base band link controller in the Bluetooth Baseband layer (Fig. 15);

sending the said signals by a wireless transceiver module [i.e., The physical layer couples the data into the Bluetooth RF (radio frequency) 1523, which in turn provides the data to an antenna 1525, which transmits the data over the air (lines 4-7 in [0090])] to a remote transmission-reception device of an identical structure [i.e., 105A-G in Fig. 1 are Bluetooth wireless transceivers, which all have the identical structures as illustrated in Fig. 2A] after the completion of encrypting [i.e., encryption (line 15 in [0068])] the said signals.

Trost et al. do not expressly disclose the remaining limitation of the claim. However, Bluetooth Specification Core Version 1.0 (pg. 41-202) disclose utilizing a encryption device of an encryption-decryption module by the said control circuit to encrypt the said signals based on a preset identification code assigned to the said transmission-reception device with respect to the said electronic equipment [i.e., The initialization key,  $K_{init}$ , is used as link key during the initialization process when no combination or unit keys have been defined and exchanged yet or when a link key has been lost. The initialization key protects the transfer of initialization parameters. The key is derived from a random number, an L-octet PIN code, and the BD-ADDR of the

**claimant unit. This key is only used during initialization (lines 1-6 in the 5<sup>th</sup> paragraph, Pg. 152)].** Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) are analogous art because they are from similar technology relating to the Bluetooth technology information processing. It would have been obvious to one of ordinary skill in the art at the time of invention was made to combine Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) since one would have been motivated to have further understanding of the details regarding to the Bluetooth technology specifications laid out for various applications.

b. Referring to Claim 2:

As per Claim 2, the rejection of Claim 1 is incorporated, and in addition Trost et al. disclose as mentioned in Claim 1 of method, wherein the said control circuit of the said transmission-reception device executes a signal reception routine according to the steps below: first, determining whether the said wireless transceiver module has received an acknowledgment signal [**i.e., Bluetooth uses a repeat request scheme in which ACL packets are transmitted and retransmitted until the destination indicates successful reception by returning an acknowledgment (lines 11-14 in [0060])**], Trost et al. do not expressly disclose the remaining limitations of the claim. However, Bluetooth Specification Core Version 1.0 (pg. 41-202) discloses decrypting the said acknowledgment signal by the said decryption device, if the said

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wireless transceiver module has received an acknowledgment signal [i.e., decryption is performed in exactly the same way using the same key as used for encryption (lines 2-3 in the 5<sup>th</sup> paragraph, Pg. 162)];

determining whether the identification code of the said decrypted acknowledgment signal matches the identification code preset on the said transmission-reception device [i.e., The entity authentication used in Bluetooth uses a challenge-response scheme in which a claimant's knowledge of a secret key is checked through a 2-move protocol using symmetric secret key. The latter implies that a correct claimant/verifier pair share the same secret key, for example K. The secret K shared by units A and B is the current link key (lines 1-4 and 10-11 in the 2<sup>nd</sup> paragraph, Pg. 169)];

sending the decrypted acknowledgment signal to the said electronic equipment assigned the said identification code for further processing, if the identification code of the said decrypted acknowledgment signal matches the identification code preset on the said transmission-reception device [i.e., The link controller 211 accepts data from the Bluetooth radio 213 and provides the data to the host I/O and link manager for communication across the host I/O to the higher layers and application module 207 (lines in [0042]), acknowledgement data is sent from the unit (host I/O and link manager 209) within

**Bluetooth device 203 to the unit (higher layers and applications 207) within host 205 (Figure 2)].**

c. Referring to Claim 3:

As per Claim 3, the rejection of Claim 2 is incorporated, and Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) disclose as mentioned in claim 2 of the method. In addition, Bluetooth Specification Core Version 1.0 (pg. 41-202) further discloses the step of ending up the said routine while determining that the said decrypted acknowledgment signal doesn't match the identification code preset on the said transmission-reception device **[i.e., Authentication needs to be done, whereby the calculation of the authentication response is based on  $K_{init}$  instead of the link key. After a successful authentication, the link key is created (lines 4-7 in the 2<sup>nd</sup> paragraph, Pg. 195). If the device that stated the pairing procedure has a fixed PIN and the other device requests a role switch, the switch is rejected by sending LMP\_not\_accepted with the reason pairing not allowed; the pairing procedure is then ended (lines 1-4 in the 2<sup>nd</sup> paragraph, Pg. 196)].**

d. Referring to Claim 4:

As per Claim 4, the rejection of Claim 1 is incorporated, and Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) disclose as mentioned in claim 1 of the method. In addition, Trost et al. disclose



wherein the said control circuit is wired to a communications plug and the other end of the said communications plug is connected to the said electronic equipment to thereby enable two-way signal exchanges between the said transmission-reception device and the said electronic equipment via the said communications plug [i.e., **FIG. 15 is a graphical illustration of an embodiment of the invention. The physical driver 1507 in the Bluetooth host then interfaces with the actual physical bus 1509 is then coupled to the HCI firmware in the Bluetooth baseband device. Although much of the HCI firmware functionality has been transferred into HCI hardware 1511, different embodiments may choose to keep different functions within the HCI firmware 1513 (lines 1-2 and 8-14 in [0089])].**

e. Referring to Claim 5:

As per Claim 5, the rejection of Claim 4 is incorporated, and Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) disclose as mentioned in claim 4 the method. In addition, Trost et al. disclose wherein the other end of the said communications plug wired to the said control circuit is in connection with the terminals of a communications card [i.e., **Physical Bus Hardware (USB, PC Card, other) 1509 (Fig. 15)]** and the said communications card has a connector [i.e., **PC card has connector for connecting to the motherboard or other system (host) board. FIG. 15 shows that a Physical Bus driver 1507 in the**

**Bluetooth Host is used for connecting the Physical bus hardware 1509]** at its opposite end.

6. Claims 6, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trost et al. (U.S. Patent 2002/0151275) and Bluetooth Specification Core Version 1.0 (pg. 41-202) as applied to claim 1 above, and further in view of Draggon et al. (U.S. Patent 6,529,804).

a. Referring to Claim 6:

As per Claim 6, the rejection of Claim 1 is incorporated, and Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) disclose as mentioned in claim 1 of the method. Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) do not expressly disclose the remaining limitations of the claim. However, Draggon et al. disclose wherein the said wireless transmission-reception device has an identification code selector button and the said identification code selector button is wired to the said **[i.e., row of preset buttons buttons on the radio (Fig.2), where upon pressing the buttons, different frequency information (channels) would be tuned]**. Trost et al., Bluetooth Specification Core Version 1.0 (pg. 41-202), and Draggon et al. are analogous art because they are from similar technology relating to wireless data transmission and reception. It would have been obvious to one of ordinary skill in the art at the time of invention was made to

combine Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) with Draggon et al. since one would have been motivated to **create a user interface of display (line 231, Col. 1)** for the design of a wireless device.

b. Referring to Claim 7:

As per Claim 7, the rejection of Claim 1 is incorporated, and Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) disclose as mentioned in claim 1 of the method. Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) do not expressly disclose the remaining limitations of the claim. However, Draggon et al. disclose wherein the said wireless transmission-reception device is equipped with a minimum of one indicator light; the said indicator light is wired to the said control circuit such that the said control circuit sends different signals to the said indicator light and thereby directs the flashing characteristics of the said indicator light [i.e., **As FIG. 2 shows, the multimedia device also uses a LCD, LED or similar suitable display screen 160 for an automotive environment to present information to the user and to control the multimedia device 20. (lines 12-15, Col. 4)**]. Trost et al., Bluetooth Specification Core Version 1.0 (pg. 41-202), and Draggon et al. are analogous art because they are from similar technology relating to wireless data transmission and reception. It would have been obvious to one of ordinary skill in the art at the time of

invention was made to combine Trost et al. and Bluetooth Specification Core Version 1.0 (pg. 41-202) with Draggon et al. since one would have been motivated to **create a user interface of display (line 231, Col. 1)** for the design of a wireless device.

c. Referring to Claim 8:

As per Claim 8, the rejection of Claim 7 is incorporated, and Trost et al., Bluetooth Specification Core Version 1.0 (pg. 41-202), and Draggon et al. disclose as mentioned in claim 7 of the method, wherein the said wireless transmission-reception device is equipped with a test button; the said test button is wired to the said control circuit such that when the said test button is depressed, the said control circuit generates different signals that are sent to the said indicator light and utilized to govern the flashing characteristics of the said indicator light **[i.e., row of preset buttons on the radio (Fig.2), where upon pressing the buttons, different frequency information (channels) would be tuned, and the light of the LED is for an automotive environment to present information to the user and to control the multimedia device]**.

### Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Ishii et al. (U.S. Patent 5,347,545) disclose a multiple-terminal communication equipment comprises a data communication unit, an information processing unit, and a data input/output unit, for realizing radio communication between at least two terminals. The multiple-terminal communication equipment transmits, before transmitting data from one terminal, a transmission disabling code for disabling data transmission of the other terminals, and after completely transmitting the data from the one terminal, a transmission enabling code for canceling the transmission disabled states of the other terminals. This arrangement is capable of smoothly and correctly communicating data between a plurality of terminal equipments.
- b. Cripps (U.S. Patent 5,838,730) discloses a wireless local area network includes a radio transmitter/receiver for transmitting and receiving in accordance with the FCC rules for the ISM band. The receiver/transmitter supports spread spectrum frequency hopping in the 2.4 GHz ISM band and can be tuned to one of e.g. 82 different frequencies spaced at 1 MHz intervals. The radio transmitter/receiver is a low cost, low power, small size unit located on a printed circuit board in a PCMCIA form factor. Third order mixers are used in combination with a switched prescaler for a low cost and compact frequency control system capable of rapid switching of the radio between transmitting and receiving functions. No special

shielding is needed between the frequency control circuitry and the receiver IF circuitry.

- c. Cannon et al. (U.S. Pub. 2002/0090912) disclose The present invention relates to an application layer function outside the BLUETOOTH protocol which associates a BLUETOOTH unique address, i.e., the 48-bit unique BD\_ADDR address, with a short passcode or PIN which is associated with a particular type of BLUETOOTH device in a particular piconet. The passcode or PIN can be pre-determined by the manufacturer of the BLUETOOTH device, or can be input and defined by the user. Upon installation in a piconet, in one embodiment shown and described with reference to FIGS. 1 and 2, a user can be asked to manually input a particular passcode or PIN into a relevant piconet device, and an inquiry can be broadcast to all communicating piconet devices and only those other piconet devices having a matching passcode or PIN associated therewith can automatically forward their respective 48-bit unique BD\_ADDR addresses to the inquiring piconet device. Alternatively, a user can inquire and be provided with a list of available passcodes or PINs already established by other devices in the piconet, and select a particular passcode or PIN associated with one or more other piconet devices. The passcode or personal identification number (PIN) may be input upon electronic device setup (e.g., a four character code). The passcode or PIN may be numeric, text, or alphanumeric.

- d. Shmitt et al. (U.S. Pub. 2002/0197954) disclose Embodiments include a system and method for adapting a wireless device, such as a Bluetooth-enabled mobile handset or other Bluetooth-enabled device to a car radio and associated speaker system to effect a hands-free car kit or similar system. The adapter module is physically and electrically coupled to the car radio by making electrical contact with a connector on the car radio with a matching connector on one side of the adapter module. The mated connectors provide communications from the adapter module to the car radio. The adapter module includes circuitry for communicating with the Bluetooth-enabled mobile handset and the car radio in order to exchange communications signals between the Bluetooth-enabled mobile handset, and a microphone and the car radio.
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yin-Chen Shaw whose telephone number is 571-272-8593. The examiner can normally be reached on 8:15 to 4:15 M-F.
- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Yen Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YCS

Jun. 10, 2005

A handwritten signature in black ink, appearing to read 'KIM VU', with a stylized flourish at the end.

KIM VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100